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(54) **SELF-CONTAINED PANTRY BOX SYSTEM FOR INSERTION INTO AN APPLIANCE**

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CPC ***F25D 25/025*** (2013.01); *F25B 5/00* (2013.01); *F25C 2400/10* (2013.01); *F25D 2317/061* (2013.01)

(58) **Field of Classification Search**
CPC F25D 2317/061; F25D 25/025
See application file for complete search history.

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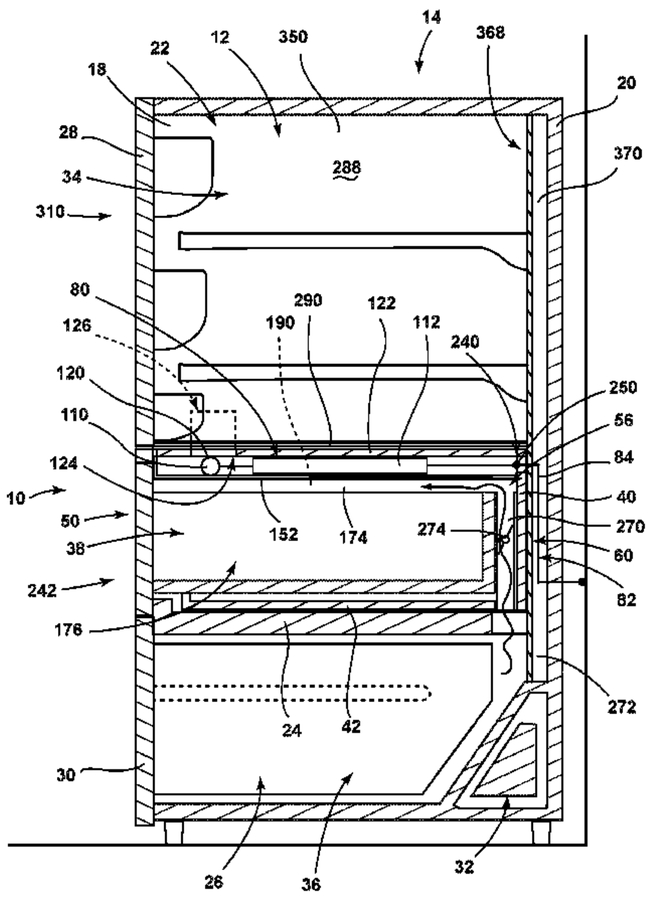
(57) **ABSTRACT**

A pantry box system for a refrigerating appliance includes a pantry mullion having an interstitial space defined therein, a pantry wall extending perpendicularly from the pantry mullion, a base positioned substantially parallel with the pantry mullion. The pantry mullion, pantry wall and base define an insertable pantry compartment having an internal pantry volume. A pantry drawer is in operable communication with the internal pantry volume, and is operable through a drawer aperture defined in the pantry wall between open and closed positions. The pantry drawer includes an exterior drawer panel that conceals the drawer aperture when the at least one pantry drawer in in the closed position. A pantry box cooling system is configured to deliver cooling to the insertable pantry compartment from an external location, wherein the pantry box cooling system includes a control that independently controls a pantry temperature of the insertable pantry compartment.

12 Claims, 11 Drawing Sheets



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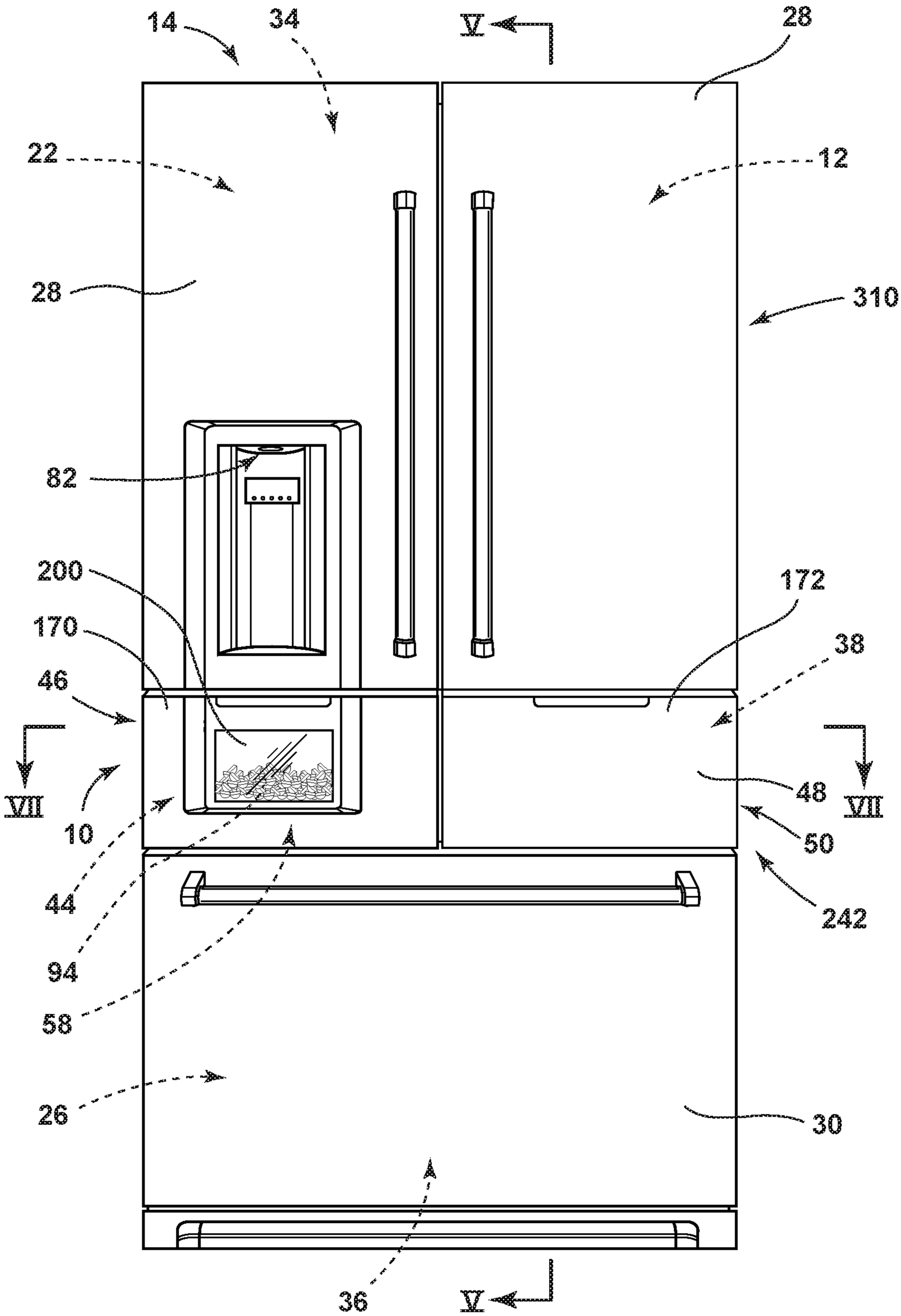
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FIG. 1

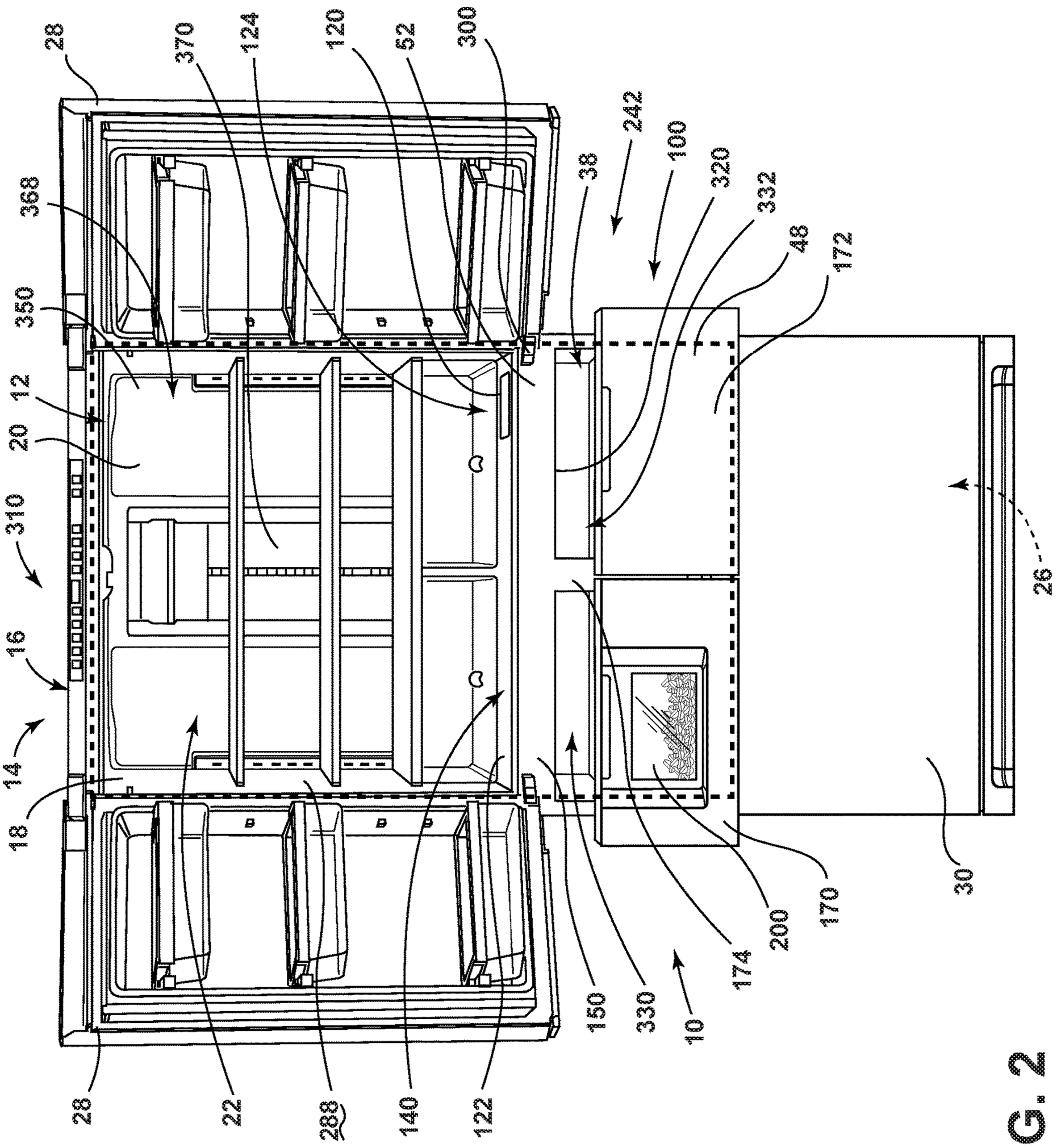
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FIG. 2

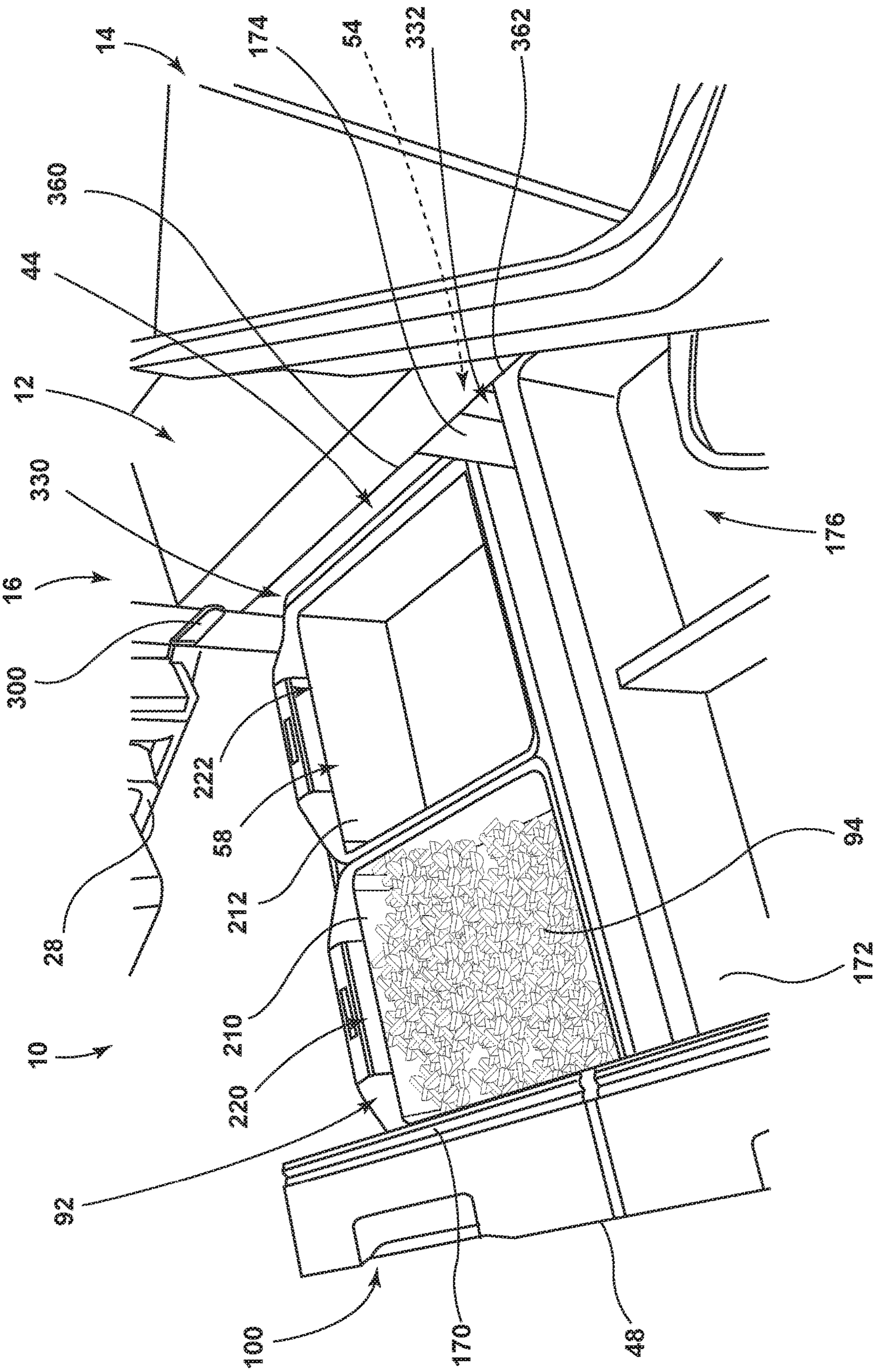
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FIG. 3

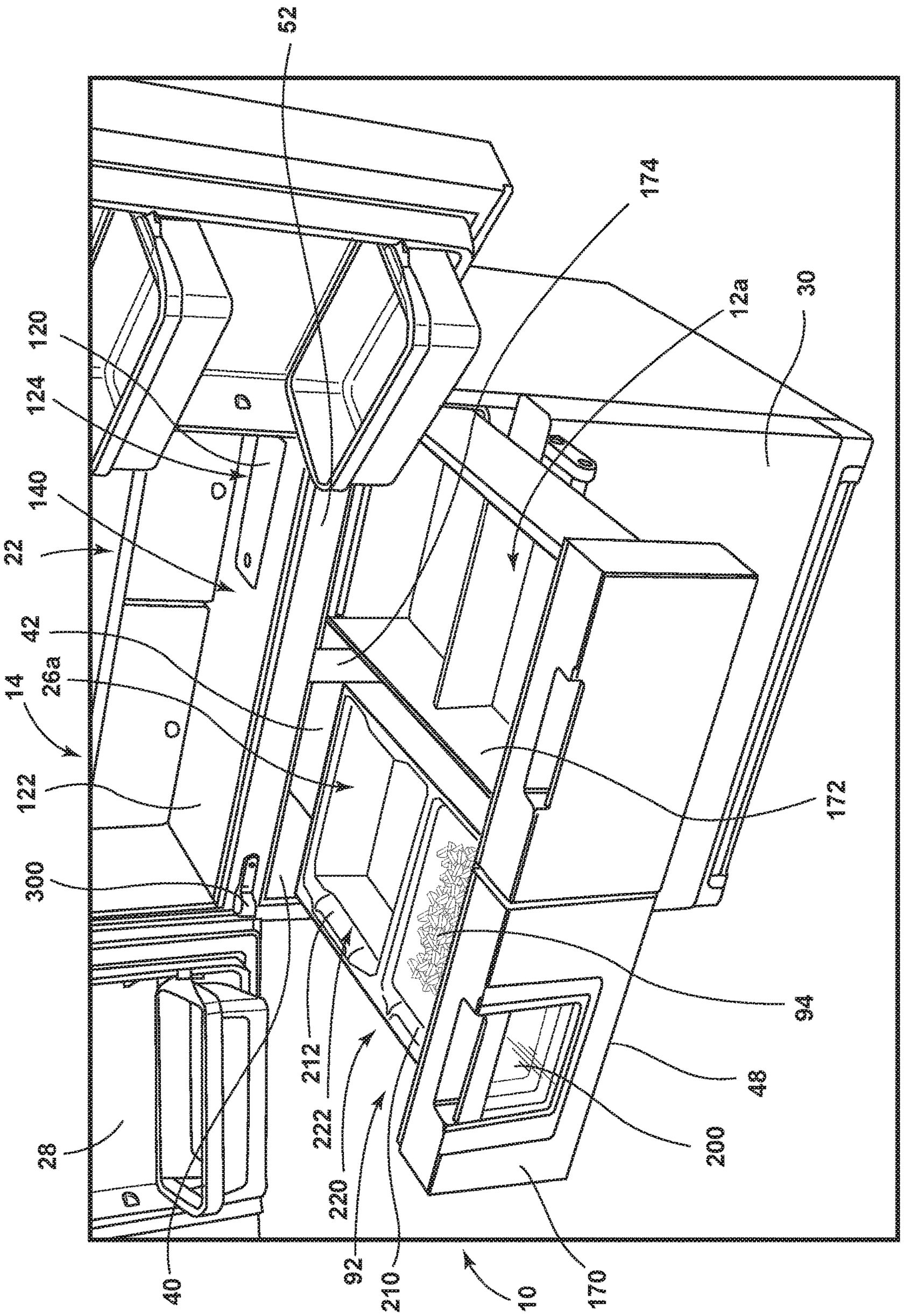
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FIG. 4

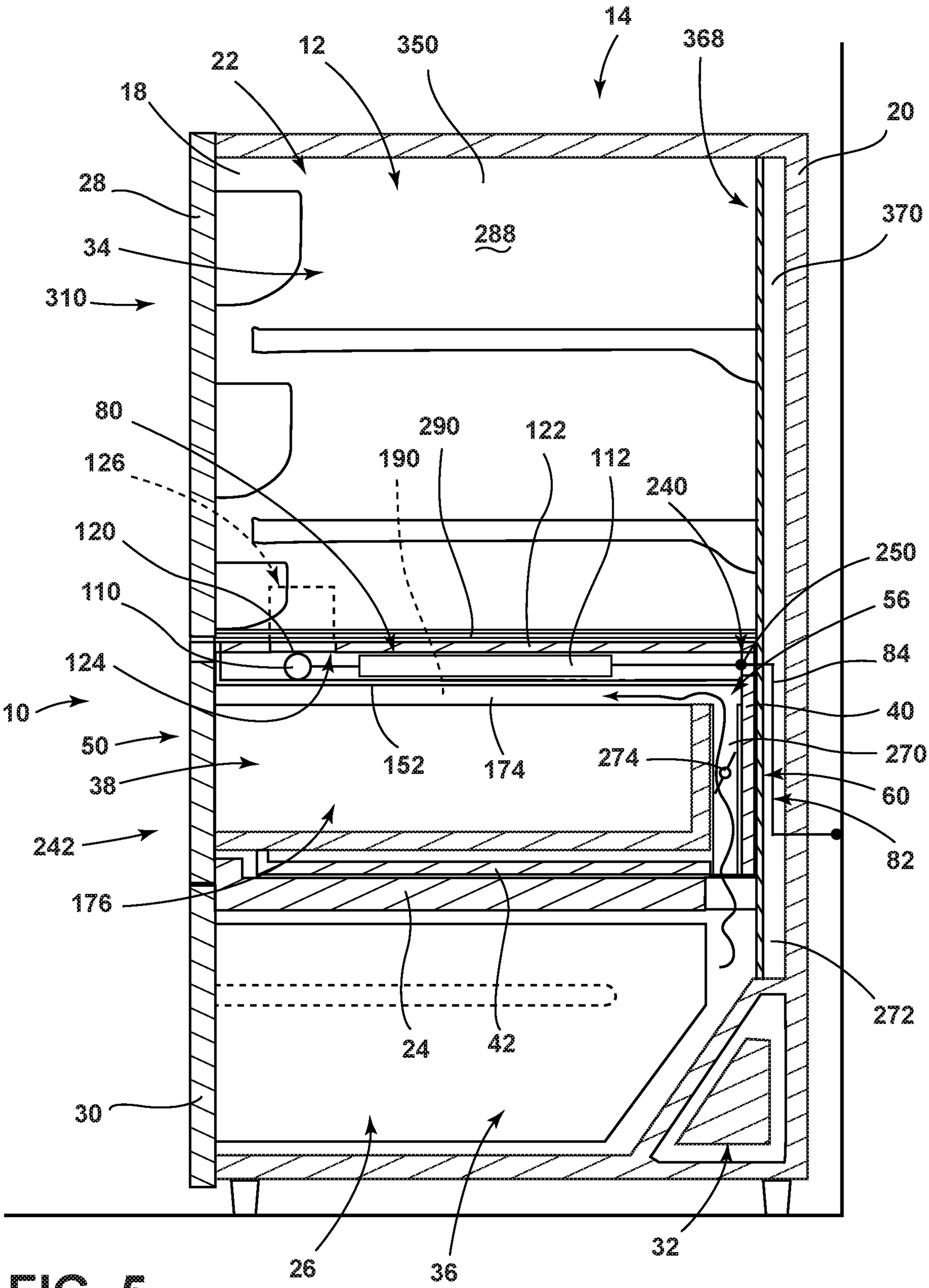
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FIG. 5

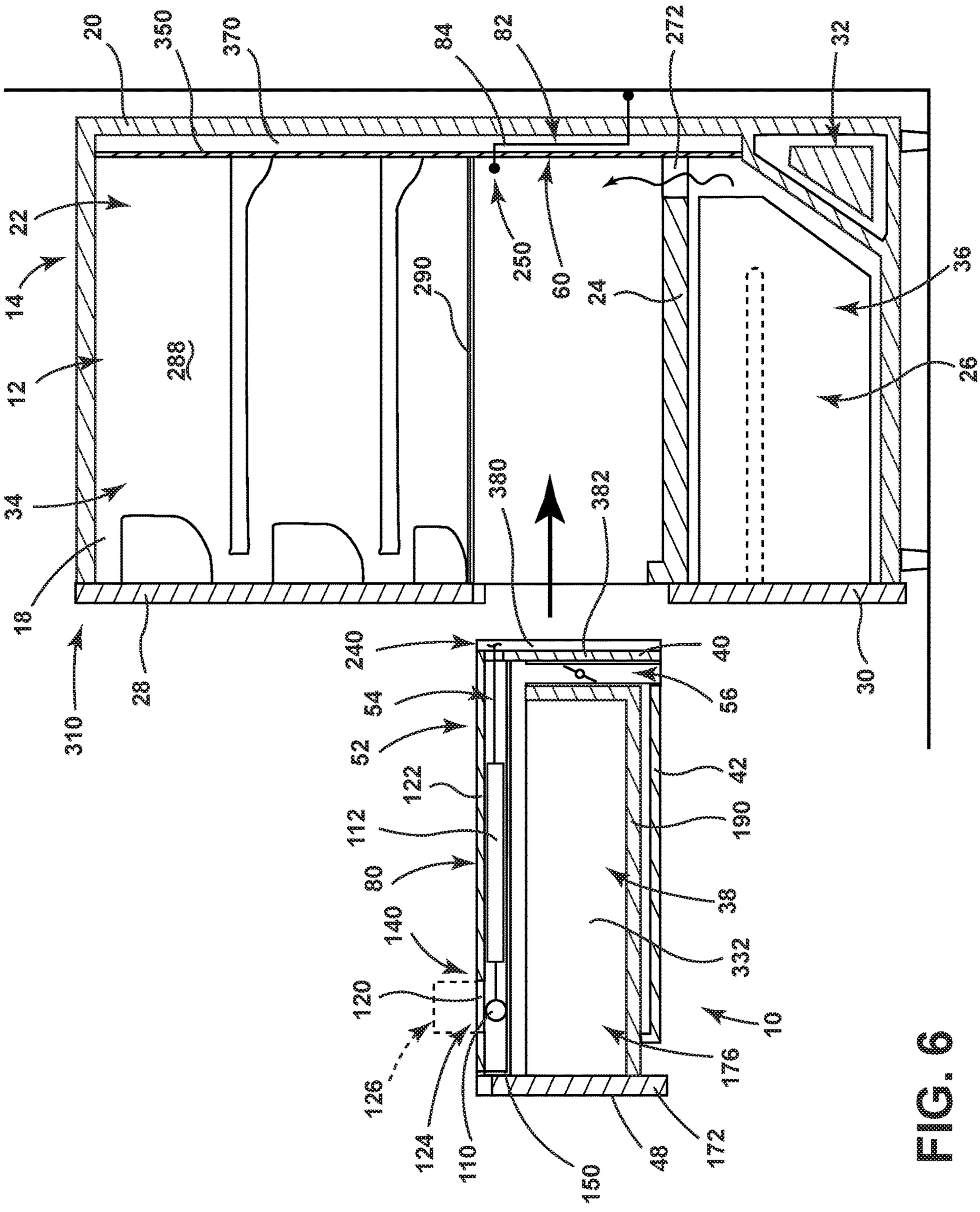
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FIG. 6

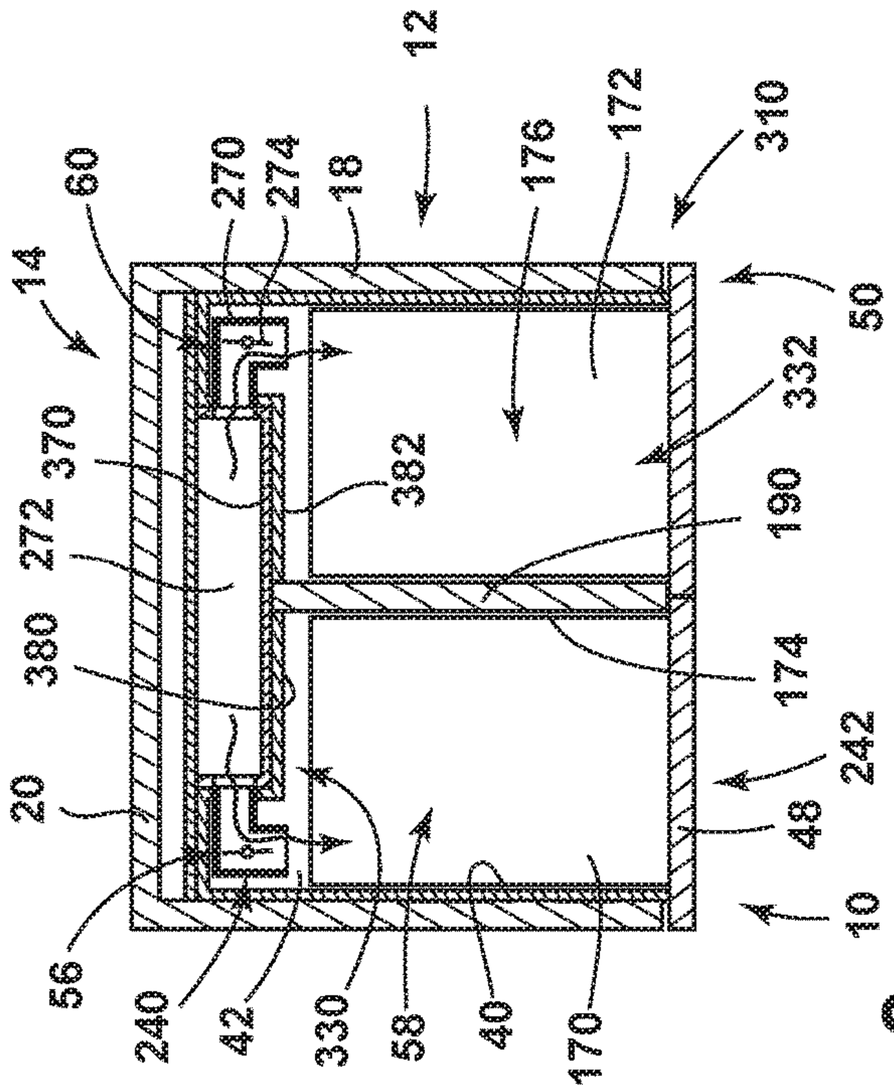


FIG. 8

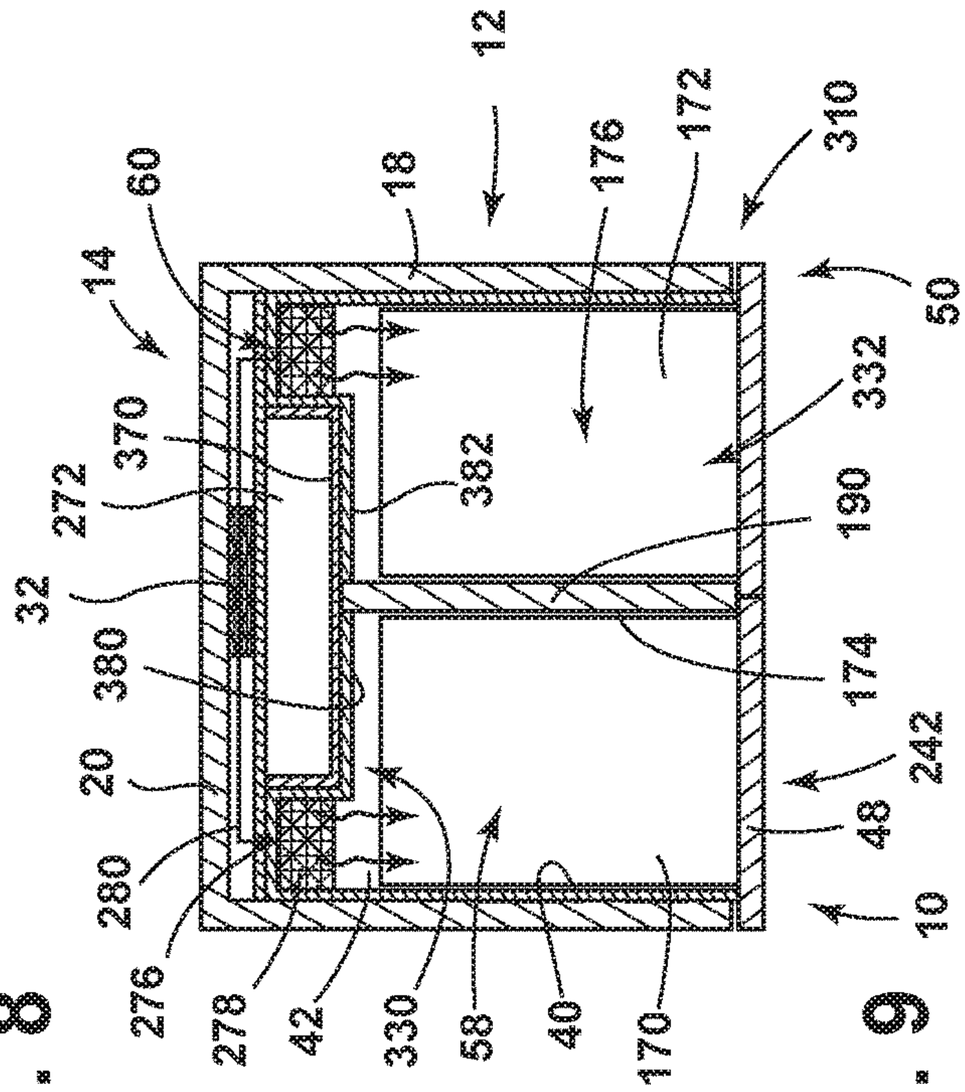
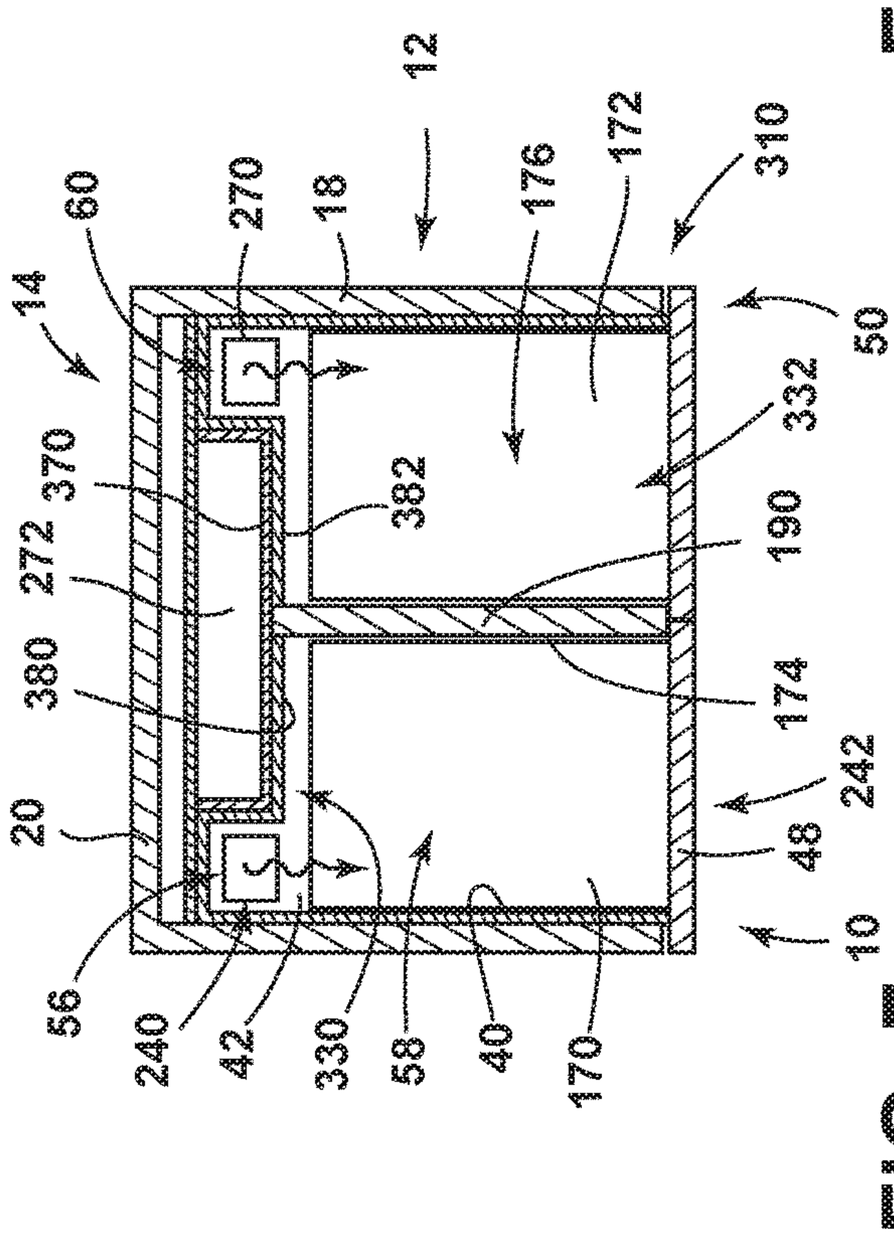


FIG. 9



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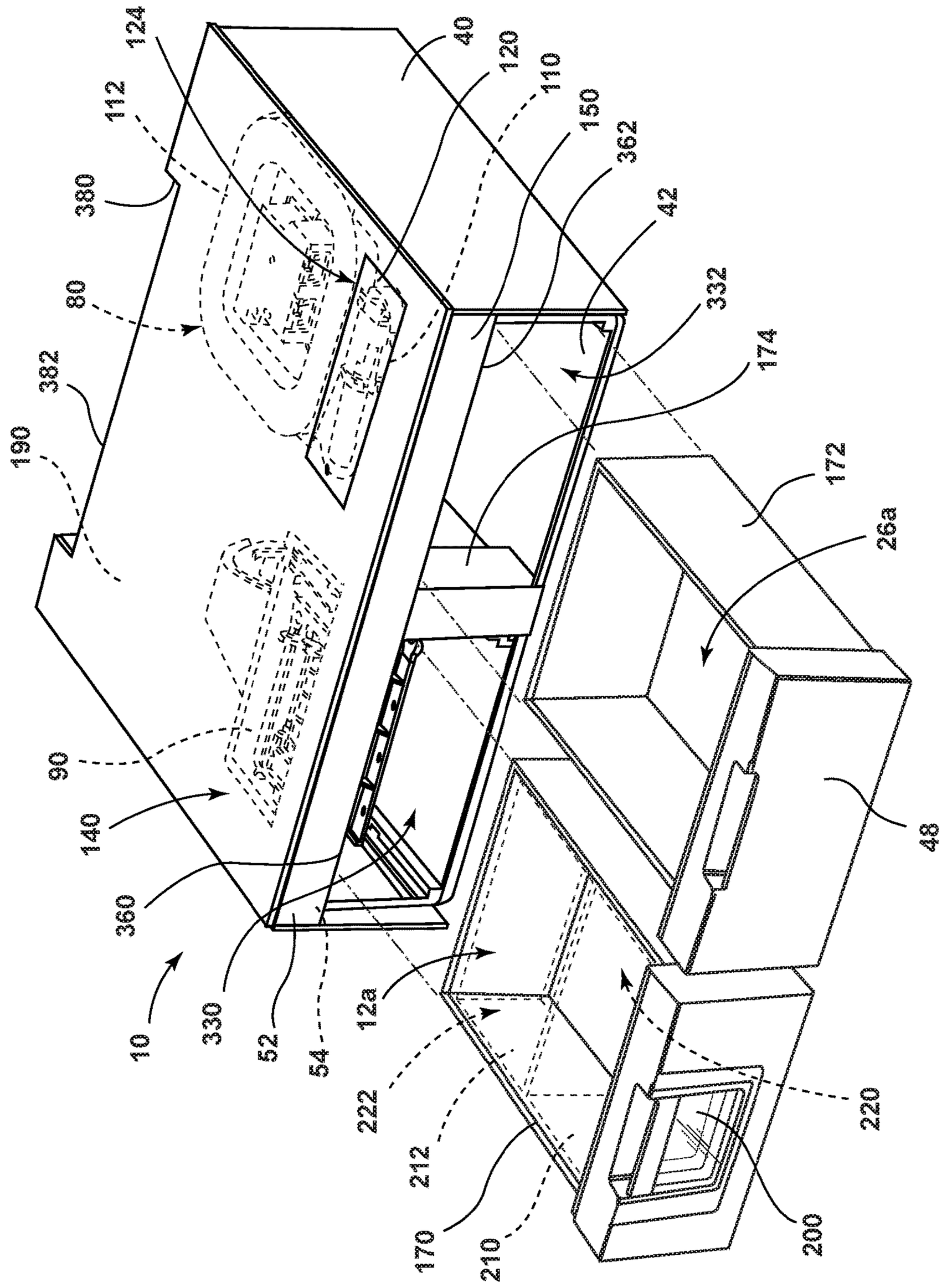
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FIG. 10

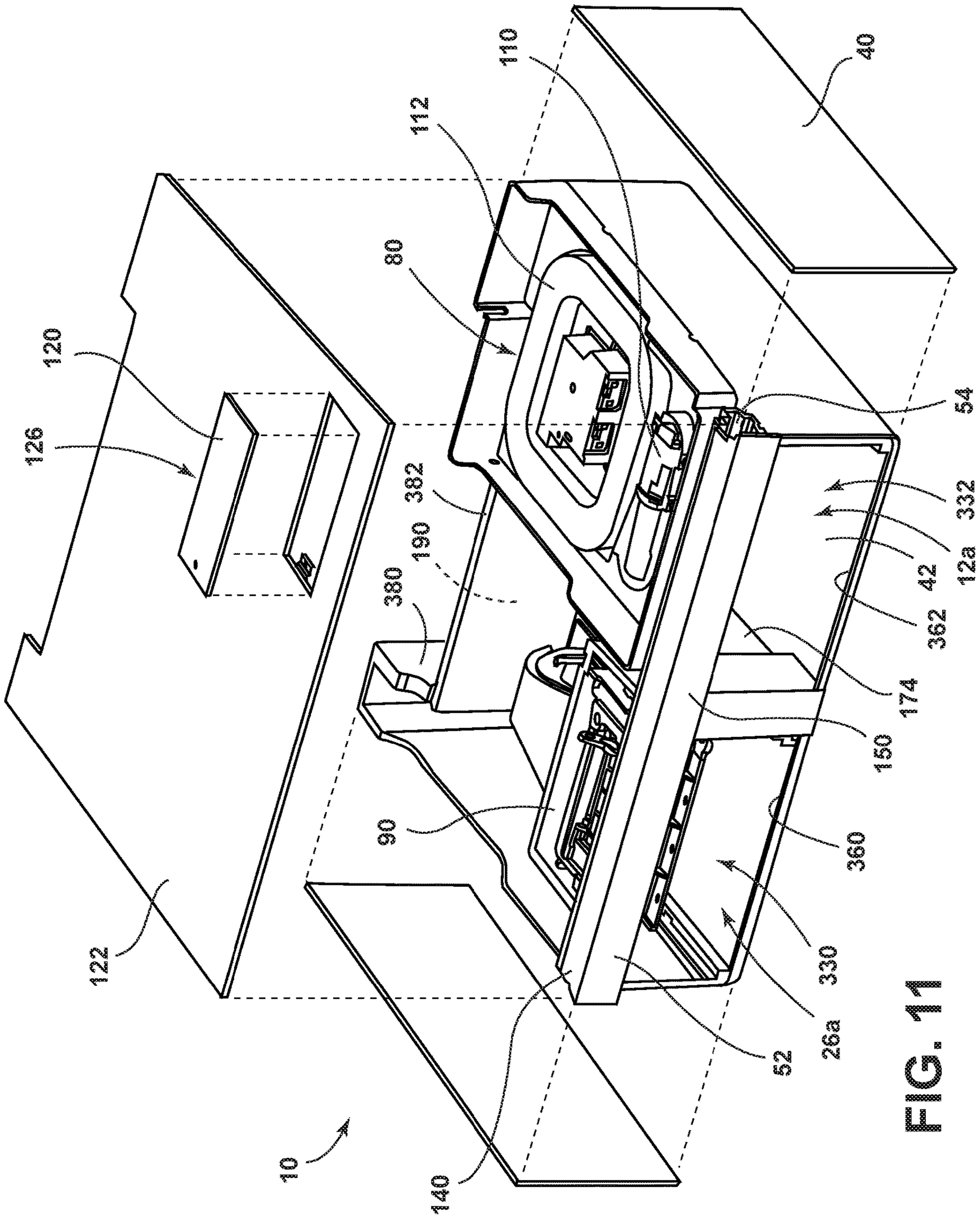
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FIG. 11

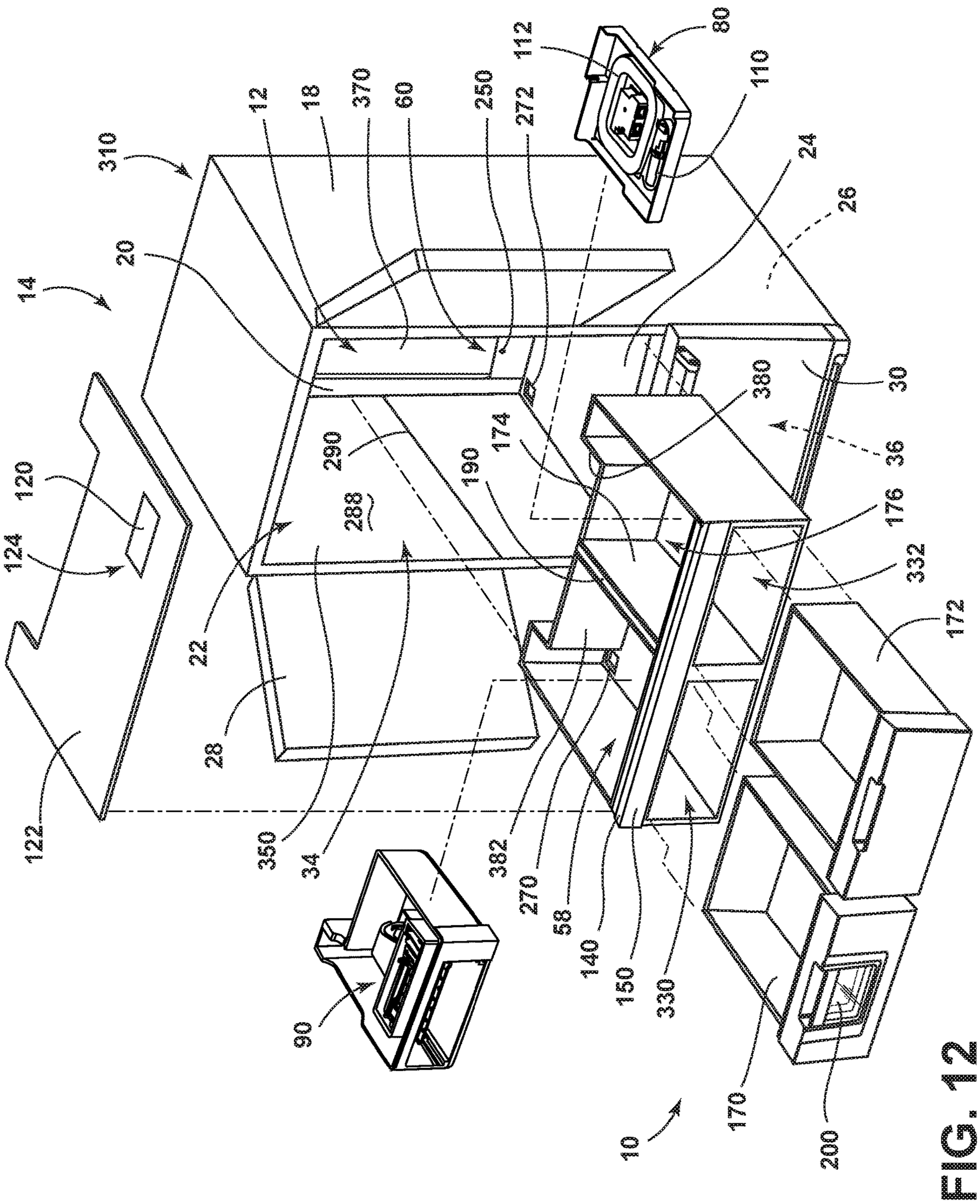
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FIG. 12

Method 400 for Installing a Pantry Box System into a Refrigerating Appliance

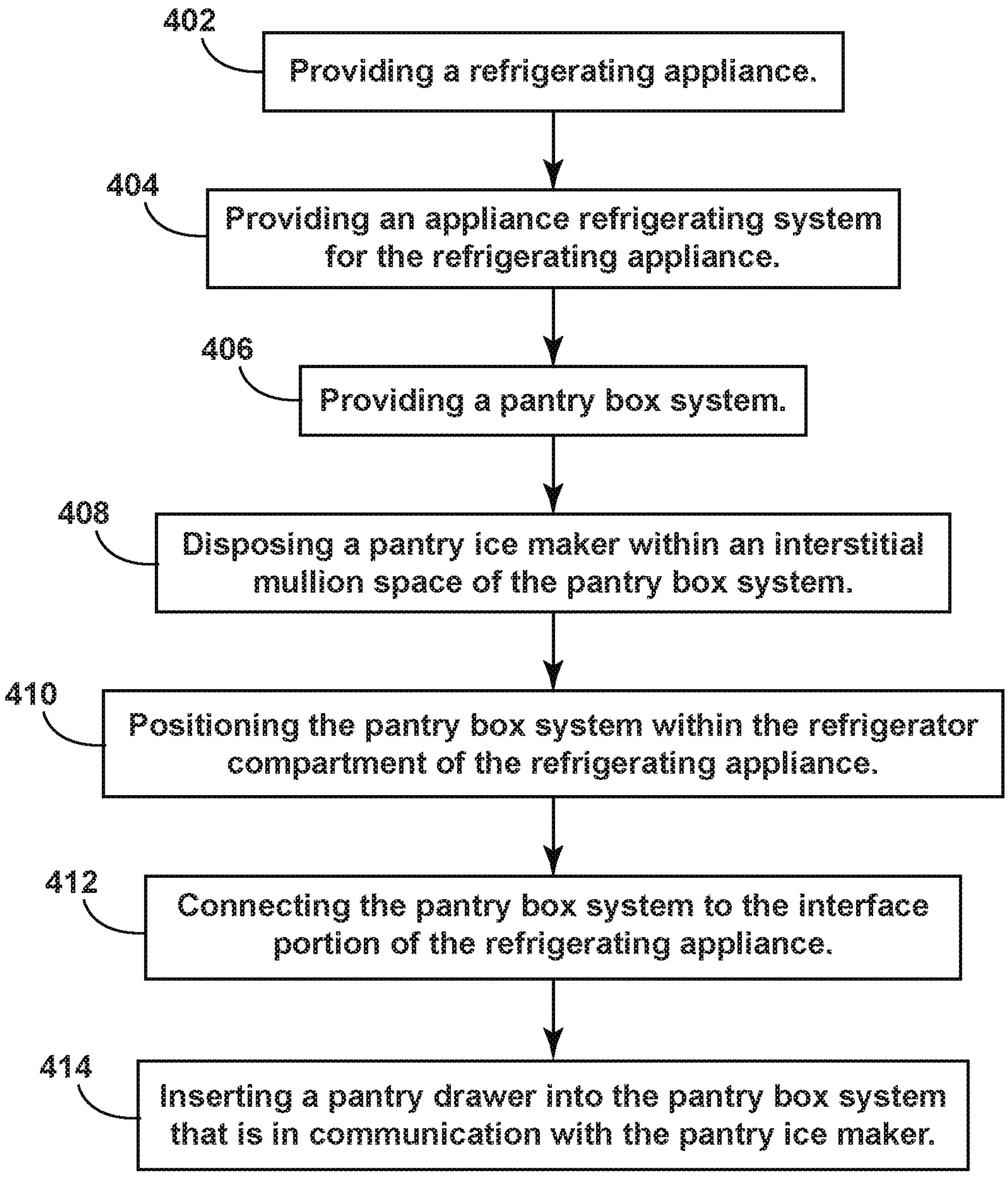

FIG. 13

SELF-CONTAINED PANTRY BOX SYSTEM FOR INSERTION INTO AN APPLIANCE

CROSS REFERENCE TO RELATED APPLICATION

The present application is a continuation of U.S. patent application Ser. No. 14/644,421 filed Mar. 11, 2015, entitled SELF-CONTAINED PANTRY BOX SYSTEM FOR INSERTION INTO AN APPLIANCE, the entire disclosure of which is hereby incorporated herein by reference.

FIELD OF THE INVENTION

The device is in the field of refrigerating appliances, specifically, a self-contained pantry box system for insertion into a refrigerating appliance.

BRIEF SUMMARY OF THE INVENTION

According to at least one aspect, a refrigerating appliance includes a cabinet having a plurality of sidewalls and a rear wall that define an interior volume. An interior mullion typically extends through a portion of the interior volume. The back wall, the sidewalls and the interior mullion define a refrigerator compartment and a freezer compartment, separated by the interior mullion. A refrigerator compartment door selectively covers at least a portion of the refrigerator compartment and a freezer compartment door selectively covers at least a portion of the freezer compartment. A plurality of doors may be used to enclose the refrigerator compartment and the freezer compartment, but typically a single or two doors enclose the compartments. A refrigeration system is also provided and typically includes a compressor, a condenser, an evaporator, an expansion device and a refrigerant. The refrigeration system operates to maintain the refrigerator compartment at a first temperature and maintain the freezer compartment at a second temperature typically lower than the first temperature and typically below freezing. A pantry box system is typically employed. The pantry box system defines a pantry compartment, and is disposed within a portion of the interior volume of the cabinet. The pantry box system includes a pantry wall and a base that define an internal pantry volume. At least one pantry drawer is in operable communication with the internal pantry volume. The at least one drawer is operable between open and closed positions. The at least one drawer includes an exterior drawer panel that conceals at least a portion of the pantry compartment and covers at least a portion of the refrigerator compartment when the at least one pantry drawer is in the closed position. A top mullion of the pantry box system includes an interstitial mullion space, a pantry box cooling system that provides cooled air from at least one of: the refrigerator compartment, the freezer compartment and the refrigeration system. The pantry box cooling system is typically configured to maintain the internal pantry volume at a third temperature and an interface portion defined within one of the sidewalls, back wall and interior mullion of the cabinet. The pantry box system engages the cabinet at the interface portion such that the refrigeration system is placed in communication with the pantry box cooling system.

According to at least another aspect, a pantry box system for installation in a refrigerator compartment of a refrigerating appliance includes a pantry mullion having an interstitial space defined therein. A pantry wall extends perpendicularly from the pantry mullion. A base is positioned

proximate the pantry wall and is positioned substantially parallel with the pantry mullion. The pantry mullion, the pantry wall and the base define an insertable pantry compartment having an internal pantry volume. At least one pantry drawer is in operable communication with the internal pantry volume. The at least one pantry drawer is operable through a drawer aperture defined in the pantry wall between open and closed positions. Each at least one pantry drawer includes an exterior drawer panel that conceals the drawer aperture when the at least one pantry drawer in in the closed position. A pantry box cooling system is configured to deliver cooling to the insertable pantry compartment from an external location when the insertable pantry compartment is positioned within an appliance. The pantry box cooling system includes a control that independently controls at least one pantry temperature of the internal pantry volume of the insertable pantry compartment.

At least another aspect of the present disclosure is generally directed to a method for installing a pantry box system into a refrigerating appliance to create a thermally independent pantry compartment includes the step of providing an appliance having a cabinet having a plurality of sidewalls and a rear wall that define an interior volume. The interior volume is divided by an interior mullion to further define a refrigerator compartment and a freezer compartment. According to various steps of the embodiments of the method, an appliance cooling system is provided having a compressor, a condenser, an evaporator, an expansion device and a refrigerant, wherein the appliance cooling system is incorporated within a machine component of the appliance and in communication with the refrigerator and freezer compartments. The appliance cooling system is configured to maintain the refrigerator compartment at a first temperature and maintain the freezer compartment at a second temperature, which is typically less than the first temperature and also typically below freezing. The appliance cooling system is in communication with an interface portion of the cabinet. A pantry box system is provided having a perimeter wall, a base and a pantry mullion that define an insertable pantry compartment, and a pantry box cooling system in communication with the insertable pantry compartment. A pantry ice maker is disposed, within an interstitial mullion space defined within the pantry mullion, and wherein the pantry ice maker is in communication with the pantry box cooling system. The pantry ice maker is configured to deliver ice to a portion of the pantry compartment. The pantry box system is positioned in the refrigerator compartment, wherein the insertable pantry compartment is defined within the refrigerator compartment. The pantry box system is connected to the interface portion of the cabinet such that the pantry box cooling system is in communication with the appliance cooling system, wherein the pantry box cooling system maintains the pantry compartment at a third temperature, and wherein the first, second and third temperatures can be independently modified. At least one pantry drawer is inserted into an aperture defined in the pantry compartment. Each at least one pantry drawer includes an exterior drawer panel that conceals at least a portion of the pantry compartment and covers at least a portion of the refrigerator compartment when the at least one pantry drawer is in the closed position.

These and other features, advantages, and objects of the present invention will be further understood and appreciated by those skilled in the art by reference to the following specification, claims, and appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description of the invention, will be better understood when

read in conjunction with the appended drawings. For the purpose of illustrating the invention, there are shown in the drawings, certain embodiment(s) which are presently preferred. It should be understood, however, that the invention is not limited to the precise arrangements and instrumentalities shown. Drawings are not necessary to scale. Certain features of the invention may be exaggerated in scale or shown in schematic form in the interest of clarity and conciseness.

FIG. **1** is a front elevational view of a refrigerating appliance incorporating an embodiment of an insertable pantry box system;

FIG. **2** is a front perspective view of the appliance of FIG. **1** with the refrigerator doors and the pantry drawers in an open position;

FIG. **3** is a top perspective view of the insertable pantry box system installed within a refrigerating appliance;

FIG. **4** is another top perspective view of the pantry box system of FIG. **3**;

FIG. **5** is a cross-sectional view of the refrigerating appliance of FIG. **1**, taken along line V-V in FIG. **1**;

FIG. **6** is a partially exploded cross-sectional view of the refrigerating appliance of FIG. **5** with the insertable pantry box system about to be installed into the refrigerator compartment of the refrigerating appliance;

FIG. **7** is a schematic cross-sectional view of the refrigerating appliance of FIG. **1**, taken along line VII-VII in FIG. **1**;

FIG. **8** is the schematic cross-sectional view of FIG. **7**, but illustrating an alternate pantry box cooling system configuration installed in the pantry box system;

FIG. **9** is the schematic cross-sectional view of FIG. **7**, but illustrating an alternate pantry box cooling system configuration installed in the pantry box system;

FIG. **10** is a partially exploded top perspective view of another alternate embodiment of the insertable pantry box system with the pantry drawers removed;

FIG. **11** is a partially exploded top perspective view of the insertable pantry box system of FIG. **4**, removed from the appliance;

FIG. **12** is an exploded top perspective view of a refrigerating appliance incorporating another embodiment of the insertable pantry box system; and

FIG. **13** is a schematic flow diagram illustrating a method for installing a pantry box system into a refrigerating appliance.

DETAILED DESCRIPTION

Before the subject invention is described further, it is to be understood that the invention is not limited to the particular embodiments of the invention described below, as variations of the particular embodiments may be made and still fall within the scope of the appended claims. It is also to be understood that the terminology employed is for the purpose of describing particular embodiments, and is not intended to be limiting. Instead, the scope of the present invention will be established by the appended claims.

Where a range of values is provided, it is understood that each intervening value, to the tenth of the unit of the lower limit unless the context clearly dictates otherwise, between the upper and lower limit of that range, and any other stated or intervening value in that stated range, is encompassed within the invention. The upper and lower limits of these smaller ranges may independently be included in the smaller ranges, and are also encompassed within the invention, subject to any specifically excluded limit in the stated range. Where the stated range includes one or both of the limits, ranges excluding either or both of those included limits are also included in the invention.

In this specification and the appended claims, the singular forms "a," "an" and "the" include plural reference unless the context clearly dictates otherwise.

As illustrated in FIGS. **1-7**, reference numeral **10** generally refers to an insertable pantry box system configured to be installed within a refrigerator compartment **12** of a refrigerating appliance **14**, according to one embodiment. The refrigerating appliance **14** can include a cabinet **16** having a plurality of sidewalls **18** and a rear wall **20** that define an interior volume **22**. An interior mullion **24** of the refrigerating appliance **14** extends through a portion of the interior volume **22**, where the rear wall **20**, sidewalls **18** and the interior mullion **24** define a refrigerator compartment **12** and a freezer compartment **26** separated by the interior mullion **24**. A refrigerator compartment door **28** selectively covers at least a portion of the refrigerator compartment **12**. Also included is a freezer compartment door **30** that selectively covers the freezer compartment **26**.

A refrigeration system **32** of the refrigerating appliance **14** includes a compressor, a condenser, an evaporator, an expansion device and a refrigerant (all not shown) that is moved through the refrigeration system **32**. The refrigeration system **32** operates to maintain a refrigerator compartment **12** at a first temperature **34**, and also maintain a freezer compartment **26** at a second temperature **36**. Generally, the second temperature **36** of the freezer compartment **26** is lower than the first temperature **34** of the refrigerator compartment **12**.

The pantry box system **10** defines a pantry compartment **38** and can be disposed within a portion of the interior volume **22** of the cabinet **16**. It is contemplated that the pantry box system **10** can be installed within the refrigerator compartment **12** or the freezer compartment **26**, as will be described more fully below.

According to the various embodiments, the pantry box system **10** can include a pantry wall **40** and a base **42** that define an internal pantry volume **44**. At least one pantry drawer **46** is in operable communication with the internal pantry volume **44**, where the at least one pantry drawer **46** is operable between the open position **100** (FIG. **2**) and closed position **50** (FIG. **1**). The at least one pantry drawer **46** includes an external drawer panel **48** that conceals at least a portion of the pantry compartment **38** and also covers at least a portion of a refrigerator compartment **12** when the at least one pantry drawer **46** is in the closed position **50** and the pantry box system **10** is installed within the refrigerator compartment **12**. The pantry box system **10** can also include a top mullion **52** that defines an interstitial mullion space **54**. The interstitial mullion space **54** can include a substantially hollow or open region within the top mullion **52**. In this manner, the interstitial mullion space **54** is an open area that is capable of housing and allowing for the operation of various water-related, electrical and/or mechanical features of the refrigerating appliance **14**, the pantry box system **10**, or both.

Referring again to FIGS. **5-7**, it is contemplated that a pantry box cooling system **56** of the pantry box system **10** can provide cooled air from at least one of the refrigerator compartment **12** (shown in FIG. **8**), the freezer compartment **26**, or the refrigeration system **32** of the refrigerating appliance **14** (shown in FIG. **9**). The pantry box cooling system **56** is configured to maintain the internal pantry volume **44** at a third temperature **58**. It is contemplated that the third temperature **58** of the internal pantry volume **44** can be the

same or different than either or both of the first and second temperatures **34**, **36** of the refrigerator compartment **12** and freezer compartment **26**, respectively. The cabinet **16** of the refrigerating appliance **14** can include an interface portion **60** that can be defined within one or more of the sidewalls **18**, rear wall **20**, or interior mullion **24** of the cabinet **16**. It is contemplated that the pantry box system **10** can engage the cabinet **16** at the interface portion **60** such that the refrigeration system **32** is placed in communication with the pantry box cooling system **56** in order to maintain the internal pantry volume **44** at the third temperature **58**.

Referring again to the embodiment illustrated in FIGS. **1-7**, it is contemplated that in addition to the pantry box cooling system **56**, the pantry box system **10** can also include a pantry water system **80** that is at least partially disposed within the interstitial mullion space **54** of the top mullion **52** of the pantry box system **10**. It is contemplated that when the pantry box system **10** is engaged with the interface portion **60** of the refrigerating appliance **14**, the pantry water system **80** is placed in communication with an appliance water system **82** of the refrigerating appliance **14**. According to the various embodiments, the appliance water system **82** can provide water to the various functions of the refrigerating appliance **14** that require water, where such functions can include, but are not limited to, forming ice, delivering water, and other similar functions, where such functions can be performed at various and multiple locations within the refrigerating appliance **14**. It is contemplated that the appliance water system **82** of the refrigerating appliance **14** can include various water lines **84** that are run through the cabinet **16** into a portion of the interface portion **60** of the refrigerating appliance **14**. In this manner, the appliance water system **82** extends to and is in communication with the interface portion **60** of the cabinet **16**.

Referring again to the embodiment illustrated in FIGS. **1-10**, it is contemplated that the pantry box system **10** can include a pantry ice maker **90** that is disposed at least partially within the interstitial mullion space **54**. The pantry ice maker **90** can be placed in communication with the pantry water system **80**, such that when the pantry box system **10** is engaged with the interface portion **60** of the cabinet **16**, the appliance water system **82** can provide water through the interface portion **60** and into the pantry water system **80** of the pantry box system **10** for delivery of water to the pantry ice maker **90**. It is also contemplated that fluid from the appliance water system **82** can be routed directly through the interface portion **60** and directly to the pantry ice maker **90**. In such an embodiment, the fluid from the appliance water system **82** can be filtered at a location within the appliance **14** before reaching the interface portion **60**. It is also contemplated that the pantry ice maker **90** can be positioned within the interstitial mullion space **54** such that the pantry ice maker **90** is in communication with an ice/food bin **92** disposed within at least one of the pantry drawers **46** of the pantry box system **10**. In this manner, the pantry ice maker **90** can be configured to deliver formed ice **94** from the pantry ice maker **90** to the ice/food bin **92** disposed within one of the drawers of the pantry box system **10**.

According to the various embodiments, the pantry box system **10** can include at least two drawers, each individually operable within the pantry box system **10** between open and closed positions **100**, **50**. In this manner, the ice/food bin **92** for the pantry box system **10** can be disposed within one of the two or more pantry drawers **46** for receiving ice from the pantry ice maker **90** when the pantry drawer **46** is in the closed position **50**. It is contemplated that the pantry box system **10** can be configured such that the pantry ice maker **90** is temporarily disengaged from delivering ice when the pantry drawer **46** is moved to an open position **100**, to prevent unwanted delivery of ice outside of the ice/food bin **92** disposed within one of the pantry drawers **46** of the pantry box system **10**.

Referring again to the embodiment illustrated in FIGS. **1-7**, the pantry box system **10** can include a water filter **110** and water tank **112** that are typically disposed within the interstitial mullion space **54**, or at least partially within the interstitial mullion space **54**. In this manner, the water filter **110** and water tank **112** are placed in communication with the pantry water system **80**. According to the various embodiments, it is contemplated that water delivered to the pantry water system **80** through the interface portion **60** and from the appliance water system **82** can be first delivered to the water filter **110** disposed within the interstitial mullion space **54**. Once filtered through the water filter **110** within the interstitial mullion space **54**, water from the pantry water system **80** can then be delivered through the water utilizing portions of the pantry box system **10** that include, but are not limited to, the pantry ice maker **90**, the water tank **112**, a water delivery system, and other similar functions. In addition, the water filter **110** disposed within the interstitial mullion space **54** can be used as the water filtration mechanism for the entire refrigerating appliance **14**, such that water can be delivered into the pantry water system **80**, filtered through the water filter **110** disposed within the interstitial mullion space **54**, and then delivered back through the interface portion **60** and into an outgoing portion of the appliance water system **82** for delivery to various functions of the refrigerating appliance **14** that require water and/or filtered water. It is also contemplated that the water tank **112** and the water filter **110** can be disposed in other portions of the pantry box system **10** or the refrigerating appliance **14**.

Referring again to the embodiments illustrated in FIGS. **4-6**, it is contemplated that the water filter **110** disposed within the interstitial mullion space **54** can be accessed by a user through a portion of the refrigerator compartment **12**. Accordingly, an operable access panel **120** can be defined within a wall, such as a top wall **122**, of the top mullion **52** of the pantry box system **10**. In the various embodiments, when the water filter **110** is to be installed, replaced, maintained, or otherwise accessed by a user, the operable access panel **120** can be removed from the top wall **122** of the top mullion **52**, thereby revealing the water filter **110** and allowing the user to directly access the water filter **110**. It is contemplated that the operable access panel **120** can be moved from a concealing position **124** where the water filter **110** is concealed by the operable access panel **120** to an access position **126** where the operable access panel **120** is moved such that the water filter **110** is accessible to the user. In order to move the operable access panel **120** to the access position **126**, the operable access panel **120** can include various operable mechanisms that can include, but are not limited to, hinge mechanisms, sliding mechanisms, mating tabs for complete removal of the operable access panel **120**, combinations of these mechanisms and other similar attachment mechanisms that provide for the movement of the operable access panel **120** between the concealing and access positions **124**, **126**.

Referring again to the embodiment illustrated in FIGS. **4-6**, it is contemplated that the water filter **110** and the operable access panel **120** that provides access to the water filter **110** can be disposed in a front portion **140** of the top mullion **52** in a position near the refrigerator compartment

door **28** of the refrigerating appliance **14**. In this manner, the operable access panel **120** can be disposed such that the user is only required to open the refrigerator compartment door **28** in order to access the operable access panel **120** for gaining access to the water filter **110**. Such a position of the water filter **110** in the operable access panel **120** can allow the user to access the water filter **110** without manipulating shelves within the refrigerator compartment **12**, moving food items or other containers stored within the refrigerator compartment **12**, or having to move other various objects that are stored within the refrigerator compartment **12**. The positioning of the operable access panel **120** and the water filter **110** in front of the refrigerator compartment **12** provides the user with ready access to the water filter **110**. According to the various embodiments, it is contemplated that the operable access panel **120** can include a color and finish that is substantially similar to the surrounding areas of the refrigerator compartment **12** and the top mullion **52** of the pantry box system **10**. In this manner, the operable access panel **120** for the water filter **110** can be substantially inconspicuous within the refrigerator compartment **12**.

According to the various embodiments, it is also contemplated that the water filter **110** can be disposed in other portions of the pantry box system **10**. In an alternate embodiment, the water filter **110** and operable access panel **120** can be positioned at the front portion **140** of the top mullion **52**, where the operable access panel **120** can be defined within a front face **150** of the top mullion **52**. In another alternate embodiment, the water filter **110** can be accessed through an operable access panel **120** disposed within an area proximate the internal pantry volume **44**. In such an embodiment, the movement of one or more of the pantry drawers **46** toward the open position **100** may be required such that the user can reach an underside **152** of the interstitial mullion space **54** to move the operable access panel **120** to the access position **126** and reach the water filter **110**. Such a position can be used where greater concealment of the operable access panel **120** is desired.

Referring again to the embodiment illustrated in FIGS. **1-6**, it is contemplated that the pantry box system **10** can include a plurality of pantry drawers **46**, where the pantry box system **10** can include a first drawer **170** and a second drawer **172** that are separated by a medial wall **174** extending through a portion of the pantry box system **10**. In such an embodiment, it is contemplated that the first and second drawers **170**, **172** are placed in communication with the pantry box cooling system **56**. It is also contemplated that the first drawer **170** can be maintained at the third temperature **58** of the pantry box system **10** and the second drawer **172** of the pantry box system **10** can be maintained at a fourth temperature **176**. In such an embodiment, the first temperature **34** of the refrigerator compartment **12**, the second temperature **36** of the freezer compartment **26**, the third temperature **58** of the first drawer **170** and the fourth temperature **176** of the second drawer **172** can all be independently adjustable and separately controlled to define a plurality of temperatures. Accordingly, the first, second, third and fourth temperatures **34**, **36**, **58**, **176** can be set to the same temperature or can be set four different individual temperatures, or combinations of similar and dissimilar temperatures.

According to the various embodiments, the pantry box system **10** can include one or more insulated panels **190** that are defined by the top mullion **52**, the pantry wall **40**, the base **42**, and the medial wall **174**, such that thermal transfer between the various compartments of the refrigerating appliance **14** can be accurately controlled. According to various embodiments, because of the insulated panels **190** of the pantry box system **10**, one or both of the pantry drawers **46** can be maintained at a temperature above or below the refrigerator compartment **12** and/or the freezer compartment **26**. Thermal transfer between the first and second drawers **170**, **172** and the freezer and refrigerator compartment **26**, **12** can be minimized due to the presence of the insulated panels **190** of the pantry box system **10**.

Referring again to FIGS. **1-7**, it is also contemplated that the pantry box cooling system **56** can include various pantry ducts **270** extending between the refrigerator and/or freezer compartment **12**, **26** to deliver chilled air from within the refrigerator and/or freezer compartments **12**, **26** for providing cooling to the first and/or second drawers **170**, **172**. Accordingly, the first drawer **170** can define a refrigerator pantry compartment **12***a* or a freezer pantry compartment **26***a*. Similarly, the second drawer **172** can also define a refrigerator pantry compartment **12***a* or a freezer pantry compartment **26***a*, regardless of what temperature the first drawer **170** may be set at. Additionally, the medial wall **174** extending between the first and second drawers **170**, **172** provides further insulation through the insulated panel **190** to prevent thermal transfer between the first and second drawers **170**, **172**.

Referring again to the embodiment illustrated in FIGS. **1-7**, it is contemplated that one or more of the pantry drawers **46** can include a viewing window **200** disposed within the exterior drawer panel of one or both of the first and second drawers **170**, **172**. Such a viewing window **200** can be substantially insulated to prevent the substantial escape of cooled air when the first and second drawers **170**, **172** are in the closed position **50**. Such a viewing window **200** can also provide the user an opportunity to view of the contents of the first and/or second drawers **170**, **172** without requiring the user to move the first or second drawers **170**, **172** to an open position **100**, which may tend to release cooled air to external portions of the refrigerating appliance **14**, and thereby require the use of additional energy to bring the first and/or second drawers **170**, **172** back to the desired third and fourth temperatures **58**, **176**, respectively.

Referring again to the embodiments illustrated in FIGS. **3** and **4**, it is contemplated that one of the first and second drawers **170**, **172** can include the ice/food bin **92** that receives formed ice **94** from the pantry ice maker **90**. It is contemplated that the ice/food bin **92** can include first and second ice/food compartments **210**, **212** that are independently and selectively removable from the first drawer **170**. It is also contemplated that at least one of the first and second ice/food compartments **210**, **212** can be viewed through the viewing window **200** disposed within the external drawer panel **48** of the first and/or second drawer **170**, **172** that houses the ice/food bin **92** when the particular pantry drawer **46** is in the closed position **50**. According to the various embodiments, it is contemplated that the first and second ice/food compartments **210**, **212** can take up substantially all of the internal space of the first drawer **170** of the pantry box system **10**. In such an embodiment, substantial amounts of ice can be stored within the first drawer **170**. Such amounts of ice can be up to ten pounds of ice or more, depending on the size of the first drawer **170**.

In various alternate embodiments, it is contemplated that the ice/food bin **92** can include a single compartment, where the single compartment can be slid within the first drawer **170**. According to the various embodiments, it is contemplated that the ice/food bin **92** having a single ice/food compartment can be moved between a forward and rearward position **220**, **222** within the first drawer **170**. When in one

of these positions, the ice/food bin **92** can be placed in communication with the pantry ice maker **90** such that ice can be delivered to the ice/food bin **92**. It is contemplated that once a predetermined amount of ice is disposed within the ice/food bin **92**, the pantry ice maker **90** can be deactivated through the use of various ice monitoring mechanisms. According to various alternate embodiments, it is contemplated that the movement of the ice/food bin **92** between the forward and rearward positions **220**, **222** can serve to activate and deactivate the pantry ice maker **90**. In such an embodiment, the placement of the ice/food bin **92** in one of the forward and rearward positions **220**, **222** can activate the pantry ice maker **90**. It is contemplated that the movement of the ice/food bin **92** to the opposing position can be configured to deactivate the pantry ice maker **90**, such that no ice will be delivered to the ice/food bin **92** or the pantry drawer **46** in the absence of the ice/food bin **92** being in the proper position to activate the pantry ice maker **90**.

According to the various embodiments, the various ice/food bins **92** can be suspended from sidewalls or on a lip of the first drawer **170** and/or the second drawer **172**. It is contemplated that the various ice/food bins **92** can be removed by hand and without the use of tools. Any one or more of the ice/food bins **92** can be adapted to contain ice or food stuffs within the respective ice/food compartment defined therein. It is also contemplated that an ice/food bin in the forward position **220** can be engaged with an ice/food bin in the rearward position **222** to store added amounts of ice, such as for use during a high ice-usage event like a party or other social gathering, or during production of ice cream, or other substantially similar occurrence. It is also contemplated that the various ice/food bins **92** can be supported by the bottom surface of either of the pantry drawers **46**.

Referring again to the embodiment illustrated in FIGS. **5** and **6**, the pantry box system **10** can be manufactured in a separate facility from the remainder of the refrigerating appliance **14**. The pantry box system **10** can include the various mechanisms for providing functionalities for the pantry box system **10**, where such functions can include the pantry ice maker **90**, the water filter **110**, the water tank **112**, the ice/food bin **92**, a water delivery system, combinations of these, and other similar functional mechanisms. Accordingly, the pantry box system **10** can be manufactured as a self-contained unit that can be delivered to the appliance assembly location, which can be in a separate building or manufacturing facility. The remainder of the refrigerating appliance **14**, including the refrigerator compartment **12**, the freezer compartment **26**, the various doors of the refrigerator and freezer compartment **12**, **26** can be manufactured at a separate location, and the pantry box system **10** can be inserted into the refrigerator compartment **12** or the freezer compartment **26** as an entire unit during manufacture of the refrigerating appliance **14**.

Referring now to the embodiments illustrated in FIGS. **5-9**, as the pantry box system **10** is inserted within the refrigerator or freezer compartment **12**, **26**, a pantry box interface **240** disposed upon a portion of the pantry box system **10** can be engaged with the interface portion **60** of the cabinet **16** of the refrigerating appliance **14**. It is contemplated that the engagement between the pantry box interface **240** and the interface portion **60** can be a substantially "plug-and-play" connection, whereby the insertion of the pantry box system **10** into an installed position **242** within the refrigerator and/or freezer compartment **12**, **26** can automatically engage the appliance water system **82** with the pantry water system **80**. It is also contemplated that at least some tightening or manual engagement of connections between the various portions of the cabinet **16** and the pantry box, using tools or by hand and without the use of tools, can serve to connect the systems together.

By way of explanation, and not limitation, a cabinet connection port **250** of the appliance water system **82** that extends into the area where the pantry box system **10** is to be disposed to define the installed position **242**, can include a nut, weld point, or other fastening mechanism that is installed to a receiving portion of the pantry water system **80** that is configured to engage the appliance water system **82**. These connection points can be fixed together through a mechanical mechanism, such as through a compression fitting, male/female connector, or other similar connection.

As illustrated in the embodiments of FIGS. **5-9**, it is also contemplated that the pantry box cooling system **56** can be engaged with the refrigeration system **32** of the cabinet **16** through the installation of the pantry box system **10** into the installed position **242** within the cabinet **16** of the refrigerating appliance **14**. In various embodiments, the pantry box cooling system **56** can include one or more pantry ducts **270** that engage corresponding appliance ductwork **272** running from at least one of the refrigerator compartment **12** and/or the freezer compartment **26**. The pantry ducts **270** of the pantry box cooling system **56** provide for the delivery of air from the refrigerator and/or freezer compartment **12**, **26** and/or from the cooling tower **370** into the first and second drawers **170**, **172** of the pantry box system **10**. The pantry ducts **270** of the pantry box cooling system **56** can also include various dampers **274** that can be controlled to regulate the amount of cooled air that is delivered to the first and second drawers **170**, **172** from the refrigerator and/or freezer compartments **12**, **26**, and/or from the cooling tower **370**.

According to various alternate embodiments, as illustrated in FIG. **9**, it is contemplated that the pantry box cooling system **56** can include a pantry refrigeration line **276** that connects to one or more pantry evaporators **278**, where the pantry refrigeration line **276** engages an appliance refrigeration line **280** of the refrigeration system **32** of the refrigerating appliance **14**. In this manner, when the pantry box system **10** is placed in the installed position **242**, it is contemplated that the pantry refrigeration line **276** can substantially align with the appliance refrigeration line **280**.

It is contemplated that the pantry refrigeration line **276** can provide refrigerant to a single pantry evaporator **278** configured to provide cooling to the first and second drawers **170**, **172**. Alternatively, the pantry refrigeration line **276** can provide refrigerant to two dedicated pantry evaporators **278** that individually and separately provide cooling to the first and second drawers **170**, **172** to maintain the third and fourth temperatures **58**, **176**, respectively.

Typically, the connection of two refrigeration lines requires bonding, welding, adhesives, or other similar connection method to fully connect the two opposing refrigeration lines together to prevent refrigerant leaks. It is also contemplated that the refrigeration line can incorporate a compression or other mechanical-type fitting to engage the pantry refrigeration line and the appliance refrigeration line to place the pantry box cooling system **56** in communication with the refrigeration system **32** of the refrigerating appliance **14**. During operation of the refrigerating appliance **14** having the pantry box system **10** installed therein, refrigerant from the appliance refrigeration system **32** can be delivered to the one or more evaporators disposed within the pantry box cooling system **56** such that cooling can be delivered to the first and second drawers **170**, **172** of the pantry box system **10**.

According to various alternate embodiments, the pantry box system **10** can include a self-contained pantry box cooling system **56** that includes a separate pantry compressor, pantry condenser, pantry expansion device, and the one or more pantry evaporators, as well as a separate pantry refrigerant that is delivered through the self-contained pantry box cooling system **56**. In such an embodiment, installation of the pantry box system **10** into the cabinet **16** of the refrigerating appliance **14** can include connection of the electrical system of the refrigerating appliance **14** with a pantry electrical system for operating the various electrical functions of the pantry box system **10**. It is also contemplated that in various embodiments of the pantry box system **10** that do not have a self-contained pantry box cooling system **56**, as described above, the insertion of the pantry box system **10** into the installed position **242** within the cabinet **16** of the refrigerating appliance **14** can include connection of the appliance electrical system with the pantry electrical system to provide electrical power for the various electrical functions of the pantry box system **10**. Such electrical functions of the pantry box system **10** can include, but are not limited to, lights, a user interface, fog/condensation control mechanisms, heaters, among others.

Referring again to the embodiment illustrated in FIGS. **5** and **6**, the interior surface **288** of the cabinet **16** of the refrigerating appliance **14** can include guide surfaces **290** within the refrigerator and/or freezer compartments **12**, **26** that serve to substantially align the pantry box system **10** within the cabinet **16** of the refrigerating appliance **14**. The guide surfaces **290** defined within the interior surface **288** of the cabinet **16** can also serve to substantially secure the pantry box system **10** within the cabinet **16** of the refrigerating appliance **14** in the installed position **242**.

According to the various embodiments, it is contemplated that when the pantry box system **10** is installed within the cabinet **16** of the refrigerating appliance **14**, a finished inner liner **350** can be disposed within the cabinet **16** to provide a finished surface for the refrigerator and/or freezer compartment **12**, **26** that contains the pantry box system **10**. In such an embodiment, the finished liner **350** can provide a surface that substantially conceals the scene that appears between the pantry box system **10** and the refrigerator or freezer compartment **12**, **26** within which the pantry box system **10** is installed.

Referring again to FIGS. **1-6**, the refrigerator compartment doors **28** can include different configurations that can be incorporated into the refrigerating appliance **14** depending on whether the pantry box system **10** is installed in the refrigerator compartment **12** or not. A set of bottom hinges **300** for the refrigerator compartment doors **28** can be disposed proximate the top mullion **52** of the pantry box system **10**. In this manner, the refrigerator compartment doors **28** are configured to extend from the top of the external drawer panels **48** for the pantry drawers **46** to a position proximate the top of the refrigerating appliance **14**. Alternatively, where the pantry box system **10** is not installed in the refrigerator compartment **12**, the bottom hinges **300** can be installed proximate the interior mullion **24**. In this configuration, the refrigerator compartment doors **28** can be longer to extend from the top of the freezer compartment door **30** to the top of the refrigerating appliance **14**. This alternate bottom hinge positioning can allow for the manufacture of a base cabinet **310** for a refrigerating appliance **14**. This base cabinet **310** can be used for a variety of models of refrigerating appliances **14** that can incorporate varying configurations of pantry compartment **38** (single drawer, multi-drawer, swaying door, etc.), or no pantry compartment **38** at all. This flexibility of the base cabinet **310** can save time, material, labor and cost by not having to manufacture separate cabinets **16** for each model of refrigerating appliance **14**.

Referring now to the embodiment illustrated in FIGS. **10** and **11**, the pantry box system **10** can include the pantry mullion, which can correspond to the top mullion **52** discussed above. The pantry mullion includes the interstitial space within. The pantry wall **40** extends perpendicularly from the pantry mullion, and the base **42** is positioned proximate the pantry wall **40** and is substantially parallel with the pantry mullion. In such an embodiment, the pantry mullion, the pantry wall **40** and the base **42** define the insertable pantry compartment **38** having an internal pantry volume **44**. It is contemplated that the one or more pantry drawers **46** can be disposed within the insertable pantry compartment **38** so as to be in operable communication with the internal pantry volume **44**. The at least one pantry drawer **46** can be operable through a drawer aperture **320** that is defined in the pantry wall **40**, where the one or more pantry drawers **46** are operable between the open and closed positions **100**, **50**. It is also contemplated that the at least one pantry drawer **46** can include the external drawer panel **48** that is configured to conceal the drawer aperture **320** when the at least one pantry drawer **46** is in the closed position **50**. Additionally, the pantry box cooling system **56** can be installed within a portion of the insertable pantry compartment **38**, wherein the pantry box cooling system **56** is configured to deliver cooling to the insertable pantry compartment **38** from an external location when the insertable pantry compartment **38** is positioned within a refrigerating appliance **14**. It is also contemplated that a pantry box cooling system **56** can include a control that independently controls at least one pantry temperature of the internal pantry volume **44** of the insertable pantry compartment **38**.

Referring again to the embodiments illustrated in FIGS. **10** and **11**, the insertable pantry compartment **38** can include the medial wall **174** that divides the internal pantry volume **44** into first and second pantry compartments **330**, **332**. In such an embodiment, first and second drawers **170**, **172** are slidably engaged with the first and second pantry compartments **330**, **332**, respectively. Additionally, the medial wall **174** is configured to extend between the pantry mullion and the base **42**. According to the various embodiments, the medial wall **174** can include an insulated panel **190** that substantially prevents thermal infiltration between the first and second pantry compartments **330**, **332** of the insertable pantry compartment **38**.

Referring again to the embodiment illustrated in FIGS. **10** and **11**, the first and second pantry compartments **330**, **332** are configured to be in communication with the pantry box cooling system **56**. In this manner, the first pantry compartment **330** is configured to be maintained at a first compartment temperature, corresponding to the third temperature **58**. Additionally, the second pantry compartment **332** can be configured to be maintained at a second compartment temperature, corresponding to the fourth temperature **176**, wherein the first and second compartment temperatures are independently adjustable and can define the same or different temperatures. Accordingly, the first pantry compartment **330** can be one of a refrigerator pantry compartment **12***a* or a freezer compartment **26***a*. Simultaneously, the second pantry compartment **332** can also define independent of the first pantry compartment **330** either a separate refrigerator pantry compartment **12***a* or a separate freezer pantry compartment **26***a*, irrespective of the first compartment temperature of the first pantry compartment **330**.

According to the various embodiments, it is contemplated that the at least one or both of the first and second pantry compartments **330**, **332** can be placed in communication with a heating mechanism. In such an embodiment, the first and/or second pantry compartments **330**, **332** can be configured to be a heating compartment or warmer/thawing compartment disposed within the refrigerating appliance **14**. In such an embodiment, the various insulated panels **190** disposed within the pantry box system **10** and the refrigerating appliance **14** serve to prevent thermal transfer between the refrigerator compartment **12**, the freezer compartment **26** and the first and second pantry compartments **330**, **332** such that the various compartments can define refrigerator or freezer compartment **12**, **26** or a heating compartment of the refrigerating appliance **14**.

According to the various embodiments, the pantry box system **10** can be installed as a pantry compartment **38** within any one of various appliances. Such appliances can include, but are not limited by, a refrigerating appliance **14**, a freezing appliance, a cooler, a warming appliance or other similar temperature-regulating appliance. It is also contemplated that an appliance can include two or more separate pantry box systems **10** disposed therein that define a plurality of pantry compartments **38**. It is further contemplated that a particular appliance can be filled with only pantry box systems **10**, where all of the various temperature-controlled compartments of the appliance are pantry compartments **38** defined by the various pantry box systems **10** disposed therein.

Referring now to the embodiments illustrated in FIGS. **1-13**, having described various embodiments of the pantry box system **10** that is configured to be disposed within a refrigerating appliance **14**, a method **400** is disclosed for installing a pantry box system **10** into a refrigerating appliance **14** to create a pantry compartment **38** that is thermally independent. According to the method **400**, a refrigerating appliance **14** is provided, where the refrigerating appliance **14** includes a cabinet **16** having a plurality of sidewalls **18** and a rear wall **20** that defines an interior volume **22**. It is contemplated that the interior volume **22** can be divided by an interior mullion **24** to further define the refrigerator compartment **12** and the freezer compartment **26** of the refrigerating appliance **14** (step **402**). An appliance cooling system is also provided, where the appliance cooling system includes a compressor, condenser, evaporator, expansion device, and a refrigerant (step **404**). It is contemplated that the appliance cooling system can be disposed within the cabinet **16** and placed in communication with the refrigerator and freezer compartments **12**, **26**. The appliance cooling system is also configured to maintain the refrigerator compartment **12** at the first temperature **34** and also maintain the freezer compartment **26** at the second temperature **36**. The appliance cooling system is also in communication with an interference portion of the cabinet **16**.

Referring again to FIGS. **1-13**, according to the method **400**, a pantry box system **10** is also provided where the pantry box system **10** includes a pantry wall **40**, a base **42** and a pantry top mullion **52** that cooperate to define an insertable pantry compartment **38**, and a pantry box cooling system **56** that is in communication with the insertable pantry compartment **38** (step **406**). According to the various embodiments, the pantry wall **40** can include a perimetrical pantry wall **40** that extends around the outside of the insertable pantry compartment **38**. It is also contemplated that the pantry wall **40** can include one or more exterior walls that extend between a portion of the pantry top mullion **52** and the base **42**.

According to various alternate embodiments, the pantry wall **40** can include a series of supports that extend around a perimeter of the pantry box system **10**. In such an embodiment, the vertical supports can serve to position the pantry mullion relative to the base **42**. When the pantry box system **10** is installed into the cabinet **16** of the refrigerating appliance **14**, the surface of the liner **350** defined within the cabinet **16** cooperates with the insertable pantry compartment **38** to define the walls of the first and second pantry compartments **330**, **332**. Accordingly, the pantry box system **10**, in such an embodiment, is not fully enclosed, but serves to cooperate with the liner **350** of the cabinet **16** to define an enclosed internal pantry volume **44** when the pantry box system **10** is installed within the cabinet **16**. Similarly, the base **42** and/or the pantry mullion, depending upon the location that the pantry box system **10** is installed within the cabinet **16**, can include spaces or gaps that are filled by the bottom or top surface of the interior mullion **24** of the refrigerating appliance **14**, depending upon the location of the pantry box system **10**.

By way of example, and not limitation, where the pantry box system **10** is disposed within the refrigerator compartment **12** and at least partially resting on the interior mullion **24** of the refrigerating appliance **14**, the base **42** of the pantry box system **10** can cooperate with the liner **350** at the top of the interior mullion **24** to fully enclose the internal pantry volume **44** of the pantry box system **10**.

Referring again to the embodiments illustrated in FIGS. **1-13**, the method **400** includes disposing a pantry ice maker **90** within the interstitial mullion space **54** defined within the pantry mullion (step **408**). In such an embodiment, the pantry ice maker **90** is configured to be in communication with a pantry box cooling system **56**. In various embodiments, the pantry ice maker **90** can include a dedicated evaporator that is connected to a refrigerant line extending at least partially through the interstitial mullion space **54** and which is in communication with the refrigeration system **32** of the refrigerating appliance **14**. It is also contemplated that the pantry ice maker **90** is configured to deliver ice to a portion of the pantry compartment **38**. According to the various embodiments, the pantry ice maker **90** can extend at least partially into the first or second pantry compartments **330**, **332**, where a bottom portion of the pantry ice maker **90** includes a sensing mechanism that determines the amount of ice that has been delivered and currently rests within the first and/or second pantry compartment **330**, **332** into which ice has been disposed from the pantry ice maker **90**.

Referring again to FIG. **13**, according to the method **400**, the pantry box system **10** is positioned within the refrigerator compartment **12** (step **410**). Accordingly, the insertable pantry compartment **38** can be incorporated within the refrigerator compartment **12**. Due to the various insulated panels **190**, the pantry compartment **38**, while positioned within the interior volume **22** of the refrigerator compartment **12**, is thermally independent from the refrigerator compartment **12**. It is also contemplated that the pantry box system **10** can be installed within the freezer compartment **26** of the refrigerating appliance **14**, wherein the insertable pantry compartment **38** would, in such an embodiment, be defined within, and thermally separate from, the freezer compartment **26** of the refrigerating appliance **14**.

After being installed within the refrigerator compartment **12** (or freezer compartment **26**), the pantry box system **10** is connected to the interface portion **60** of the cabinet **16**, such that the pantry box cooling system **56** is placed in communication with the appliance cooling system (step **412**). Accordingly, the pantry box cooling system **56** can be

configured to maintain the first pantry compartment **330** at the third temperature **58** and the second pantry compartment **332** at the fourth temperature **176**. As discussed earlier herein, it is contemplated that the first, second, third and fourth temperatures **34**, **36**, **58**, **176** of the refrigerating appliance **14** can be separately and independently modified relative to one another.

Referring again to the embodiments illustrated in FIGS. **1-10**, at least one pantry drawer **46**, such as a first and second drawer **170**, **172**, can be inserted into an aperture defined within the insertable pantry compartment **38**. Due to the presence of the medial wall **174** extending through the pantry box system **10**, the insertable pantry compartment **38** can include first and second apertures **360**, **362** for receiving the first drawer **170** within the first pantry compartment **330**, and the second drawer **172** within the second pantry compartment **332**, respectively (step **414**).

According to the various embodiments, when the first and second drawers **170**, **172** are inserted within the first and second apertures **360**, **362** defined within the insertable pantry compartment **38**, the exterior drawer panels of the first and second drawers **170**, **172** serve to conceal at least a portion of the pantry compartment **38** and also cover at least a portion of the refrigerator compartment **12** when the first and/or second drawers **170**, **172** are in the closed position **50**. As discussed above, when the pantry box system **10** is installed within the refrigerator compartment **12** of the refrigerating appliance **14**, additional systems of the pantry box system **10** can be connected with various systems of the refrigerating appliance **14**. Such systems can include, but are not limited to, the pantry water system **80** being connected to the appliance water system **82**, the pantry box cooling system **56** being connected to the appliance refrigeration system **32**, the pantry electrical system being connected to the appliance electrical system and other similar connected pantry/appliance systems. As discussed above, it is contemplated that at least a portion of these systems can be connected by hand and without the use of tools or by inserting the pantry box system **10** into the installed position **242** within the cabinet **16** of the refrigerating appliance **14**. Additionally, the guide surfaces **290** defined within the inside surface of the liner **350** of the cabinet **16** can serve to guide the pantry box interface **240** into connection with the interface portion **60** of the refrigerating appliance **14** such that the installed position **242** of the pantry box system **10** defines the connection between the various systems of the pantry box system **10** and the refrigerating appliance **14**. Alternatively, certain utility systems of the pantry box system **10** can be connected to the corresponding systems of the refrigerating appliance **14** by the use of tools for tightening, adhering, welding or performing some other connection method.

According to the various embodiments, the interface portion **60** of the cabinet **16** can be defined within a rear portion **368** of the refrigerating appliance **14** such as in the cooling tower **370** or similar structure defined within the refrigerator compartment **12**. In such an embodiment, the cooling tower **370** can include various mechanical interfaces that define the interface portion **60** of the refrigerating appliance **14**. Similarly, a corresponding portion of the pantry box interface **240** of the pantry box system **10** can engage a portion of the cooling tower **370** to place the pantry box interface **240** in communication with the interface portion **60** of the refrigerating appliance **14**. It is also contemplated that the interface portion **60** of the refrigerating appliance **14** can be in portions distal from the back wall of the refrigerating appliance **14**, such as in a sidewall **18** of the liner **350**, within a portion of the internal mullion, or other similar position. It is contemplated that whatever the position of the interface portion **60** of the refrigerating appliance **14**, it is a position that is substantially engaged by the pantry box system **10** when the pantry box system **10** is placed in the installed position **242** within the refrigerating appliance **14**.

Referring again to the embodiment illustrated in FIG. **9**, the pantry box system **10** can include a recess portion **380** that cooperates with the geometry of the cooling tower **370** disposed within the backwall **382** of the refrigerator compartment **12**. Accordingly, the pantry wall **40** of the pantry box system **10** can matingly engage the backwall **382** of the refrigerator compartment **12**. It is contemplated that the mating engagement with the pantry wall **40** and the various geometries of the refrigerator compartment **12** can serve to further locate the pantry box system **10** within the refrigerator compartment **12** to further align the pantry box interface **240** with the interface portion **60**.

The invention claimed is:

1. A refrigerating appliance comprising:

a cabinet having an interior volume, wherein an interior mullion extends through the interior volume to define refrigerator and freezer compartments within the interior volume;

a refrigeration system that operates to maintain the refrigerator and freezer compartments at first and second temperatures, respectively, the refrigeration system having an interface portion defined within the cabinet;

an appliance water system disposed within the cabinet, wherein a portion of the appliance water system extends to the interface portion of the cabinet; and

a pantry box system having a pantry compartment and disposed within the refrigerator compartment, the pantry box system comprising:

at least one pantry drawer, wherein each pantry drawer is operable between open and closed positions and includes an exterior drawer panel that conceals at least a portion of the pantry compartment and covers a portion of the refrigerator compartment when each pantry drawer is in the closed position;

a top mullion having a bottom panel that defines a lower boundary of an interstitial mullion space of the top mullion and a top boundary of the pantry compartment;

a pantry water system at least partially disposed within the interstitial mullion space, wherein a portion of the pantry water system is disposed on top of the bottom panel of the top mullion, wherein engagement of the pantry box system with the interface portion places the pantry water system in communication with the appliance water system, wherein a water filter and water tank are disposed within the interstitial mullion space, wherein the water filter and water tank are in communication with the pantry water system, and wherein the water filtere is selectively removable from the interstitial mullion space through an operable access panel defined within a wall of the top mullion, and

a pantry box cooling system that provides cooled air to the pantry compartment from at least one of the refrigerator compartment, the freezer compartment and the refrigeration system, wherein the pantry box cooling system is configured to maintain the pantry compartment at a third temperature, wherein the

pantry box cooling system engages the interface portion to communicate with the refrigeration system.

2. The refrigerating appliance of claim **1**, wherein the at least one pantry drawer includes first and second drawers that are selectively and independently operable between the open and closed positions.

3. The refrigerating appliance of claime **1**, wherein a pantry ice maker is disposed at least partially within the interstitial mullion space, wherein the pantry ice maker is in communication with the pantry water system, and wherein the pantry ice maker is also in communication with an ice bin disposed within the at least one pantry drawer when the at least one pantry drawer is in the closed position, such that the pantry ice maker delivers formed ice to the ice bin.

4. The refrigerating appliance of claim **2**, wherein the first and second drawers are separated by a medial wall that extends between the interior mullion and the bottom panel.

5. The refrigerating appliance of claim **4**, wherein first and second drawers are in communication with the pantry box cooling system wherein the first drawer is maintained at the third temperature and the second drawer is maintained at a fourth temperature, wherein the first, second, third and fourth temperatures are independently adjustable to define a plurality of temperatures.

6. The refrigerating appliance of claim **4**, wherein the at least one pantry drawer includes first and second drawers, and wherein the first drawer includes the ice bin, wherein the ice bin includes first and second ice compartments that are independently and selectively removable from the first drawer, and wherein the first drawer includes a viewing window disposed within the exterior drawer panel that allows the ice bin to be viewed from an exterior of the cabinet when the first drawer is in the closed position.

7. A pantry box system for installation in a compartment of an appliance, the pantry box system comprising:

a pantry mullion having a bottom panel that at least partially defines an interstitial space defined within the pantry mullion, wherein the interstitial space within the pantry mullion includes a pantry water system positioned above the bottom panel;

a pantry wall extending perpendicularly from the pantry mullion, wherein the pantry mullion and the pantry wall define an insertable pantry compartment having an internal pantry volume;

at least one pantry drawer in operable communication with the internal pantry volume, the at least one pantry drawer operable through a drawer aperture defined in the pantry wall between open and closed positions, wherein each at least one pantry drawer includes an exterior drawer panel that conceals the drawer aperture when the at least one pantry drawer is in the closed position, wherein a pantry ice maker is disposed at least partially within the interstitialspace, wherein the pantry ice maker is in communication with the pantry water system, and wherein the pantry ice maker is also in communication with an ice bin disposed within the at least one pantry drawer when the at least one pantry drawer is in the closed position, such that the pantry ice maker delivers former ice to the ice bin;

a pantry box cooling system that is configured to deliver cooling to the insertable pantry compartment from an external location when the insertable pantry compartment is positioned within the appliance; and

a pantry box interface that is configured to engage the appliance wherein the pantry box cooling system is in communication with the pantry box interface, wherein the pantry water system is at least partially disposed within the interstitial space and is in communication with the pantry box interface, and wherein the pantry box interface is positioned on a portion of the insertable pantry compartment.

8. The pantry box system of claim **7**, wherein the insertable pantry compartment includes a medial wall that divides the internal pantry volume into first and second pantry compartments, wherein the at least one pantry drawer includes first and second drawers that are slidably engaged with the first and second pantry compartments, respectively, and wherein the medial wall extends between the pantry mullion and a base, the base being substantially parallel with the pantry mullion.

9. The pantry box system of claim **7**, wherein a water filter is disposed within the interstitial space and is in communication with the pantry water system, wherein the water filter and water tank are in communication with the pantry water system and an appliance water system, and wherein the water filter is selectively removable from the interstitial space through an operable access panel defined within a wall of the pantry mullion.

10. The pantry box system of claim **8**, wherein first and second pantry compartments are in communication with the pantry box cooling system wherein the first pantry compartment is configured to be maintained at a first compartment temperature, and wherein the second pantry compartment is configured to be maintained at a second compartment temperature, wherein the first and second compartment temperatures are independently adjustable.

11. The pantry box system of claim **7**, wherein the at least one pantry drawer includes first and second drawers, and wherein the first drawer includes the ice bin, wherein the ice bin includes first and second ice compartments that are independently and selectively removable from the first drawer, and wherein the first drawer includes a viewing window disposed within the exterior drawer panel that allows the ice bin to be viewed from an exterior of an appliance cabinet when the first drawer is in the closed position.

12. The pantry box system of claim **7**, wherein the pantry box cooling system includes a control that independently controls at least one pantry temperature of the internal pantry volume of the insertable pantry compartment.

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